

## CURRICULUM VITAE

### Pal Pacher M.D., Ph.D., F.A.P.S., F.A.H.A., F.A.C.C

**Work Address:** NIH/NIAAA/DICBR Laboratory Physiological Studies,  
Section Oxidative Stress Tissue Injury,  
5625 Fishers Lane, Room 2N-17  
Bethesda, MD 20892-9413  
Phone: (301)4434830 Fax: (301)443-4830  
Emails: pacher@mail.nih.gov ppacher@gmail.com ppacher@lycos.com  
Web: <http://www.niaaa.nih.gov/ResearchInformation/IntramuralResearch/AboutDICBR/LPS/SectionOSTI.htm>

#### Education and Certifications:

INSTITUTION AND LOCATION	DEGREE	YEAR	FIELD OF STUDY
Semmelweis University of Medicine, Budapest, Hungary	M.D. (summa cum laude)	1993	Medicine
Hungarian Academy of Sciences, Budapest, Hungary	Ph.D. (summa cum laude)	2001	Cardiovascular Pharmacology, Cardiology

#### Professional Associations:

2011- American College of Cardiology (2011- Elected Fellow of ACC)  
2007- Society for Leukocyte Biology  
2006- The International Cannabinoid Research Society  
2006- Society for Free Radical Biology and Medicine  
2006- Nitric Oxide Society  
2004- American Physiological Society (2006- elected Fellow of the Cardiovascular Section)  
2004- ASPET  
2001- American Heart Association (2006- elected Fellow of the Basic Cardiovascular Science Council)  
2000-2006 Institute of Holistic Therapies, U.K.  
1999-2002 Biophysical Society  
1999- Juvenile Diabetes Association  
2000- American Diabetes Association  
1998-2001 New York Academy of Sciences  
1997- International Society for Heart Research  
1996- Hungarian Pharmacological Society, Hungarian and European Societies of Cardiology

#### Honors and Awards:

2012- Award and Plenary Lecture of the *International Cannabinoid Research Society* Board of Directors to be presented at the 2012 ICRS Annual Symposium in Freiburg, Germany  
2012- Elected Honorary Member of the Hungarian Society for Experimental and Clinical Pharmacology, Plenary Honorary Lecture at 50<sup>th</sup> anniversary meeting, to be presented Sept 19-21 in Budapest, Hungary  
2010-2012 Listed in the top 100 (#62, Febr. 2012) cited in the World in Pharmacology and Toxicology field during the past decade, also top 1% in Clinical Medicine, Biology and Biochemistry fields (Institute of Scientific Information)  
2011 June- Elected Fellow of the American College of Cardiology  
2011 - "Star reviewer" selected by the Editor of AJP Cell Physiology (announced FASEB Meeting, 2011)  
2011 Jan- Adjunct Professor, University of Texas Medical Branch, Department of Anesthesiology  
2011- Steering Committee Member of the Cancer Redox Biology Faculty, National Cancer Institute (NCI)  
2008- Nominated for President-Elect of The International Cannabinoid Research Society  
2008 - Sanofi Aventis Award  
2007- Thomson ISI, fast breaking paper in the field of pharmacology: **P Pacher, S Batkai, G Kunos.** The endocannabinoid system as an emerging target for pharmacotherapy. *Pharmacological Reviews* **2006; Sept; 58(3): 389-462.** (cited over 600 times (Google scholar), #5 top cited paper in Pharmacology field 2006-2009, Scopus).

- 2007 - ISI: hot paper in Biochemistry; most highly cited in *Physiological Reviews* since 2007: **P Pacher**, JS Beckman, L Liaudet. Nitric oxide and peroxynitrite in health and disease. *Physiol Reviews* **2007; Jan**;87(1):315-424 (cited over 1200 times (Google scholar); #2 top cited paper in Biology/Biochemistry, Essential Science Indicators, Thomson 2009; Editors' selection for hottest paper in *Physiological Reviews* 2008, 2009, 2010, 2011).
- 2006/2007 - 4 Publication Awards, NIH/NIAAA
- 2006- Elected Fellow of American Heart Association
- 2006 - Elected Fellow of American Physiological Society Cardiovascular Section
- 2004 - Best Poster Award, International Society for Heart Research, Brisbane, Australia
- 2004- Award of Nitric Oxide Society, Nara, Japan
- 2004- Award for Research Excellence, National Institutes of Health, Bethesda, USA
- 2000-2001 Postdoctoral Fellowship Award of Juvenile Diabetes Association
- 1999- Sigma-Aldrich Research Award
- 1999- Award of Hungarian Pharmacological Society on Young Researcher Competition
- Scientific Research Award of TEVA-Biogal Pharmaceutical Company for the best drug-developmental proposal in the CNS, Budapest, Hungary
- 1998- Young Investigator Award of International Society for the Study of Hypertension in Pregnancy (ISSHP), Kobe, Japan
- 1997- Award of Hungarian Pharmacological Society on Young Researcher Competition;

Travel Awards: 1997-1999: Travel Award of ISSHP; Travel Award of Soros Foundation; Travel Award of Hungarian Society of Cardiology; Travel Award of Semmelweis University of Medicine;

Consultancy/scientific advisory board (before NIH): Pfizer, Merck, P&G, Millar Instruments

**Scientometrics (March 2012):** Impact factor of publications (ISI): over 1,400;

Citations during past 7 years 2005-2012 (Scopus): over 10,000;

total citations: over 11,000/13,000; Hirsch h index: 57/62 (Scopus/Google Scholar); Egghe's g-index: 112.

According to citations (ISI, past 10 years) ranked in top 100 in Pharmacology field in the World and in top 1% in Clinical Medicine, Biology and Biochemistry fields

### Research interest:

Cardiovascular physiology and pharmacology, aging, diabetes and diabetic complications, oxidative/nitrosative stress and inflammation, lipid endocannabinoid signaling system. Identification of novel therapeutic targets and diagnostic tools against cardiovascular and other disorders associated with oxidative stress, inflammation and tissue injury, including those triggered by excessive alcohol consumption.

### Professional Work Experience:

2011- Adjunct Professor, University of Texas Medical Branch, Department of Anesthesiology

2005- Section Chief, Oxidative Stress and Tissue Injury, Laboratory of Physiologic Studies, NIAAA/National Institutes of Health, Bethesda, USA

2003-2004 Senior Research Fellow, Laboratory of Physiologic Studies, NIAAA, NIH, Bethesda, USA

2001-2002 Senior Cardiovascular Pharmacologist (Principal Investigator in 8 NIH grants (\$1.86 million), co-investigator in 6 grants (\$1.65 million), Inotek Pharmaceuticals, Beverly, USA

1999-2001 Visiting Research Scientist, Dept of Pathology and Cell Biology, Thomas Jefferson Medical University, Philadelphia, USA

1996-1999 Ph.D. student in First National Institute of Cardiology and Dept. of Pharmacology, Semmelweis Univ of Med., Budapest, Hungary

1995-1999 Assistant Professor of Pharmacology, Dept of Pharmacology, Semmelweis University of Medicine

1994 Lecturer of Pharmacology, Dept of Pharmacology, Semmelweis University of Medicine, Budapest, Hungary

### Editorial Boards:

Regional Editor (U.S.A.): 2003- Current Vascular Pharmacology (IF:3.18)  
2007- Cardiovascular & Hematological Agents in Medicinal Chemistry

Associate Editor: 2010- The Journals of Gerontology, Series A: Biological Sciences (IF: 3.99)

Editorial Academy: 2006- International Journal of Molecular Medicine (IF:1.9)

Editorial Board: 2007- Frontiers in Bioscience (IF: 4.04)  
2007- Open Access Pharmacology Journal, Letters, Reviews

- 2007- Open Cardiovascular Medicine Journal, Letters, Reviews
- 2006- Current Medicinal Chemistry (IF: 4.63)
- 2005- Current Drug Targets Cardiovascular & Hematological Disorders
- 2005- Cardiovascular & Hematological Agents in Medicinal Chemistry
- 2005- Journal of Pharmacology and Toxicology
- 2010- Diabetes Review Letters
- 2010- World Journal of Gastroenterology (IF:2.24)
- 2010- Alcohol (IF:2.4)
- 2011- Free Radical Biology and Medicine (IF: 6.08)
- 2011- American Journal of Physiol Heart and Circulatory Physiology (IF: 3.71)

Editor: special issues:

- 2005- Current Vascular Pharmacology, Hot Topic Issue: Role of Oxidative-Nitrostatic Stress and Poly(ADP-ribose) Polymerase in Cardiovascular Pathophysiology
- 2008-2009: Frontiers in Bioscience: Nitric oxide, superoxide and peroxynitrite in cardiovascular diseases (with Prof. Ferid Murad, co-winner of the 1998 Nobel Prize in Physiology/Medicine)

**Teaching:**

- 1991-1993 Assistant Lecturer of Pharmacology and Microbiology
- Jan 1994- July 1994 Lecturer of Pharmacology, Dept of Pharmacology, Semmelweis University of Medicine, Budapest, Hungary
- Aug 1995-Febr 1999 Assistant Professor of Pharmacology, Dept of Pharmacology, Semmelweis University of Medicine

My responsibility was teaching Pharmacology and Toxicology (32 hours/week) for Medical Students, Students of Dentistry and Pharmacy. I also participated in the PhD training program of the Department in cardiovascular physiology and pharmacology

**Students/researchers supervised (with current degree/s and position):**

- |                                |            |  |
|--------------------------------|------------|--|
| Zoltan Ungvari M.D., Ph.D.     | 1997-1999  | (Associate Professor, Donald W. Reynolds Chair of Aging Research, Univ. of Oklahoma Health Sciences Center, USA)   |
| Lako-Futo Zoltan M.D.          | 1996-1998  | (Physician, 1 <sup>st</sup> Intern Med Hospital, Budapest, Hungary)  |
| Zsolt Bagi M.D., Ph.D.         | 1997-1999  | (Associate Professor, Univ of Georgia, USA)  |
| Gabor Szalai M.D.              | 1995-1998  | (Cardiologist, Baylor College, Texas, USA)   |
| Katalin Komjati M.D., Ph.D     | 2000-2002  | (Research Scientist, Inotek Pharmaceuticals)   |
| Peter Bai Ph.D                 | 2001-2003  | (Principal Investigator, Univ of Debrecen, Hungary)  |
| Rita Benko Ph.D.               | 2002-2003  | Research Associate, Inst. of Human Physiol, Budapest, Hungary  |
| Anne Vaslin                    | 2002-2003  | PhD Student, Lausanne, Switzerland   |
| Lucas Liaudet M.D.             | 2001-2002  | Professor, Dept. of Internal Medicine, Lausanne, Switzerland   |
| Cziraki A M.D, Ph.D.           | 2001-2003  | Vice Dept. Head, Heart Institute, Pecs University, Hungary   |
| Xiao CY M.D.                   | 2002-2003  | Research Scientists, Inotek Pharmaceuticals, Beverly, USA  |
| Chen M M.D.                    | 2002-2003  | Research Scientists, Inotek Pharmaceuticals, Beverly, USA  |
| Sharon Zac                     | 2002       | Animal Technician, Inotek Pharmaceuticals, Beverly, USA  |
| Long-Sheng Lu, M.D.            | 2003       | Research Fellow, Graduate Institute of Pharmacology, National Taiwan University  |
| Zsusanna Zsengeller M.D., Ph.D | 2002-2003  | Senior Research Fellow, Harvard Medical School, Boston   |
| Oleg V. Evgenov M.D., Ph.D.    | 2003-2004  | Anesthesiologist, Harvard Medical School, Boston   |
| Lucja Flis                     | 2005       | Special volunteer, college student   |
| Nora Czifra                    | 2006       | Special volunteer, college student   |
| Anjum Jafri                    | 2005- 2006 | Research technician  |
| Partha Mukhopadhyay Ph.D.      | 2006-      | Research Fellow (Staff Scientist 2009-)  |
| Mohanraj Rajesh Ph.D.          | 2006-2011  | Research Fellow, now Assistant Professor in UAE (FARE Award winner 2009; since 2009-2011 supported by Sanofi Aventis Fellow Award)   |
| Vivek Patel                    | 2007-2010  | Special volunteer/high school summer student, now college student  |
| Lauren Becker                  | 2008       | Special volunteer/ high school summer student, now college student   |
| Rachel Gao                     | 2009-2010  | Special volunteer/ high school summer student, now college student   |
| Galín Tanchian                 | 2010-2011  | Special volunteer/ high school summer student, now college student   |
| Malek Kechrid                  | 2010-2011  | Special volunteer/ summer student, now college student   |
| Bela Horvath MD., Ph.D.        | 2010-      | Supplemental Research Fellow, supported by Hungarian National Innovation Office (FARE Award winner 2011; among top 21 selected to present at NIH Research Festival by the Chair) |
| Sandor Batkai MD., Ph.D.       | 2010-2010  | Staff Scientist, now group leader at Institute of Molecular and Translational Therapeutic Strategies, Hannover, Germany  |

Pal Pacher M.D., Ph.D. - CV

Enrique Guerrero-Beltrán	2010	Special volunteer, guest researcher for 3 mo, supported by Universidad Nacional Autónoma de México (Received PhD in part based on the work done at NIH in 2011)
Zongxian Cao MD., Ph.D.	2011-	IRTA Fellow
Enkui Hao MD	2011-	Guest researcher, supported by fellowship from China
Wen-Shin Lee MD	2011-	Guest researcher, supported by fellowship from Taiwan
Elein Holovac	2011-	Special volunteer/ high school summer student
Katalin Erdelyi	2012-	Visiting Research Fellow

Also supervised more than 10 scientists at Procter & Gamble; Pfizer and Merck, whose names can not be disclosed because of the confidentiality agreement signed (before NIH).

**Grant review/study sections, committees, etc.:**

National/International:

Philips Morris USA: grant reviewer: 2005-2007  
Wolferrmann-Nägeli Foundation, Germany: grant reviewer: 2008  
Catalan Agency for Health Technology Assessment and Research, Spain: grant reviewer: 2008  
Hungarian Research Council: grant reviewer: 2008, 2009  
Hungarian Research Council: special consortium grant review committee: 2008, 2009  
Trinity College Dublin: External reviewer for Senior promotions committee: 2008, 2009  
University of Tromsø, Norway: External reviewer/1st opponent for PhD defence 2007 (Dr. Elena Egorina)  
University of Calgary in Calgary, Alberta, Canada: External reviewer for PhD defence 2008 (Dr. Ali Gaskari)  
Alberta Heritage Foundation, Canada: grant reviewer: 2007, 2008, 2009, 2010  
Swiss National Fund for Scientific Research: grant reviewer: 2007, 2008, 2009, 2011  
American Diabetes Association: ad hoc reviewer  
American Heart Association: ad hoc reviewer, abstract review  
Medical Research Council, UK: grant reviewer: 2008, 2009, 2010, 2011  
The Wellcome Trust: grant reviewer: 2009, 2010  
Cancer Research UK: grant reviewer: 2009  
Health Research Board, Ireland: 2011  
French National Research Agency "Blanc SVSE 2": 2010  
Juvenile Diabetes Research Foundation International: Targets of ROS in T1D complications study section: 2010  
Society for Free Radical Biology and Medicine: abstract reviewer: 2008, 2009, 2010, 2011  
Society for Free Radical Biology and Medicine: Young Investigator Award Committee: 2009  
Society for Free Radical Biology and Medicine: Senior Life Achievement Award Committee: 2010  
Alzheimer Foundation: grant reviewer: 2011  
Society for Free Radical Biology and Medicine: Discovery Award Committee: 2011  
Member of the Scientific Organizing Committee The International Cannabinoid Research Society Annual Meetings 2008, 2009, 2010  
Program Committee for Society for Free Radical Biology and Medicine's 19th Annual Meeting to be held in San Diego, CA, November 14 - 18, 2012 (SFRBM 2012)  
Israel Science Foundation 2012

NIH:

Institutional ACUC committee: 2006-  
Regular FARE judge, NIH: 2005-  
NIH Research festival: abstract reviewer: 2009, 2010, 2011  
National Cancer Institute: SBIR Contract Proposals for NCI's Topic 255 "Development of Anti-cancer Agents" study section: 2009  
NIH Intramural Research Program "Earl Stadtman Investigators" search committee Member: Pharmacology/Molecular Targets: 2009-2010;  
NIH Intramural Research Program "Earl Stadtman Investigators" search committee Member: Physiology: 2010-2011;  
NIH/NIDDK: PAR-08-181 Seeding Collaborative Interdisciplinary Team Science in Diabetes, Endocrinology and Metabolic Diseases (R24) study section: 2011Oct  
Steering Committee of the Cancer Redox Biology Faculty, National Cancer Institute: 2011-

**Reviewer:**

Circulation; Circulation Research; The Journal of Clinical Investigation; J Am Coll Cardiol; Hypertension; Arteriosclerosis Thrombosis and Vascular Biology; Cardiovasc Res; J Mol Cell Cardiol; Diabetes; Diabetes Care; Diabetologia; Diabetes/Metabolism Research and Reviews; Am J Pathology; Am J Physiology (AJP) Heart Circulation

Physiology; AJP Cell Physiology; AJP Lung Cellular and Molecular Physiology; AJP Endocrinology and Metabolism; AJP Regulatory, Integrative and Comparative Physiology; AJP Gastrointestinal and Liver Physiology; Acta Physiologica Scandinavica; FASEB J; J Physiology London; Journal of Pharmacology and Experimental Therapeutics; British Journal of Pharmacology; Biochemical Pharmacology; Toxicology; Toxicology Letters, Molecular Pharmacology; Current Vascular Pharmacology; J Cardiovascular Pharmacology; Methods and Findings in Experimental and Clinical Pharmacology; Can J Pharmacol Physiol; International Journal of Molecular Medicine; Current Medicinal Chemistry; Current Drug Targets Cardiovascular & Hematological Disorders; Cardiovascular & Hematological Agents in Medicinal Chemistry; Journal of Pharmacology and Toxicology; Critical Care Medicine; Critical Care; Am J Respir Crit Care Med; Shock; Life Sciences; J Neurochemistry; International Journal of Cancer; Oncology Reports; European Journal of Cancer; Brain Research; Kidney International; Transplant International; Free Radicals Biol Med; Expert Opinions on Therapeutic Patents; Recent Patents on Inflammation & Allergy Drug Discovery; Journal of Cardiac Failure; Alcohol; American Journal of Psychiatry; Molecular and Cellular Biology; Cardiovascular Drug Reviews; Experimental Biology and Medicine; Gastroenterology; Hepatology, Journal of Clinical Anesthesia; Journal of Neurophysiology; Cardiovascular Drugs and Therapy; Experimental and Clinical Endocrinology&Diabetes; Neurochemistry; J Molec Endocrinology; Antimicrobial Agents and Chemotherapy; Journal of Molecular Medicine; Endocrinology; Immunobiology; Journal of Diabetes and its Complications; Journal of Interventional Cardiac Electrophysiology; FEBS letters; Experimental Gerontol; Mech. Ageing Dev.; Aging Cell; Rejuvenation Research; Gerontology; Nature Medicine; Nature Reviews Endocrinology; Chemical Reviews; Pharmacological Review; Nature Reviews Drug Discovery; TIPS;

**Grants and Contracts:**

**Present: NIH/NIAAA Intramural program (since 2003)**

- Since 2003: Research is supported by the Intramura Research Program of the NIH; unpaid consultant in various NIH, AHA, ADA and international grants (can be only unpaid consultant in "outside grants" because of the NIH and/or other agencies' regulations)
- 2008-2010: Receptient of Sanofi Aventis Fellow Award Grant (to support Dr. Mohanraj Rajesh's training: app. 70,000/year for 2 years)
- 2010-2011: Fellowship Award from Hungarian Research Council (to support Dr. Bela Horvath's stay at NIH: app. 60,000/year for 2 years)
- 2011: University founds from Taiwan and China to support 2 cardiologist's research training at NIH/NIAAA for 1 year
- 2012-: 1 U01 AA021122-01 Collaborative Extramural-Intramural Grant: "Cell Death in Alcoholic Heart and Muscle" Extramural PI: Hajnoczky Gyorgy (contact), Rubin Emanuel; Intramural: Pal Pacher Priority score: 18 (ranked #1 among 1U01 grants submitted)

**Past (before NIH)**

**Principal Investigator**

<b>No.</b>	<b>Title</b>	<b>Period of Performance</b>	<b>Total Grant</b>
1 R43 GM63274-01A1	Novel xanthine oxidase inhibitor for hemorrhagic shock	8/1/01-8/31/02	\$214,161
1 R43 GM64016-01A1	Peroxynitrite decomposition catalyst for hemorrhagic shock	5/1/02-4/30/03	\$235,780
1 R43 HL69419-01	PARS inhibitor for cardiac allotransplantation	5/1/02-4/30/03	\$197,929
1R43CA95807-01	Poly(ADP-ribose) polymerase and doxorubicin cardiotoxicity	7/1/02-6/30/03	\$250,000
1R43GM63274-01A2	Peroxynitrite decomposition catalyst for hemorrhagic shock	2/01/02-1/31/03	\$177,375
1R43HL69548-01A1	Peroxynitrite decomposition catalysts for bronchiolitis obliterans Chronic heart failure: the role of poly(ADP-ribose) polymerase activation	7/1/02-6/30/03	\$150,224
1R43HL71381-01	Chronic heart failure and PARP inhibition	9/2/02-8/30/03	\$315,259
1R43HL071381-01A1	Chronic heart failure and PARP inhibition	12/1/02-12/1/03	\$315,259
			<b>1,855,987</b>

**Co-Investigator**

<b>No.</b>	<b>Title</b>	<b>Period of Performance</b>	<b>Total Grant</b>
1 R43 HL68298-01	PARS inhibitor therapy of smoke inhalation injury	8/1/1-1/31/03*	\$270,590
1R43CA86149-01A1	A nitric oxide synthase inhibitor for intestinal polyposis	9/1/01-9/29/03	\$850,853
1 R43 HD41288-01	Novel therapy for female sexual dysfunction	9/15/01-9/13/02*	\$229,792
1R03AG21206-01	Reactive nitrogen species and cardiovascular aging	7/1/02-6/30/03	\$79,502
1R43HL70342-01	Xanthine oxidase inhibitor for congestive heart failure Doxorubicin cardiotoxicity:protection by peroxynitrite decomposition catalyst	7/1/02-12/31/02	\$220,870
1R43CA097559-01			<b>1,651,607</b>

### Invited Presentations:

- 2012, July 22-27, Plenary Lecture of International Cannabinoid Research Society (ICRS) Board of Directors at the ICRS Annual Symposium in Freiburg, Germany
- 2012, Sept 19-21, Plenary Honorary Lecture at 50<sup>th</sup> anniversary meeting of the Hungarian Society for Experimental and Clinical Pharmacology, Budapest, Hungary
- 2012, Sept 6-7, 7<sup>th</sup> International Symposium on Alcoholic Liver and Pancreatic Disease and Cirrhosis, Beijing, China
- 2011, Dec, 50<sup>th</sup> Anniversary Meeting of Phytochemical Society of North America; Hawaii, Medicinal Plants: "Nonpsychoactive constituents from Cannabis sativa (marijuana): Therapeutic potential in inflammatory disorders and diabetes"
- 2011, June, RSA meeting "Role of poly(ADP-ribose) polymerase (PARP) in liver injury, inflammation and fibrosis"
- 2011, May, 102 AOCs Annual Meeting, Cincinnati, "Opposing Effects of Cannabinoid-1 and 2-receptors on Inflammation and Oxidative Stress: Implications for Tissue Injury"
- 2010, November, Redox Biology in Immunology and Cancer Workshop, National Cancer Institute, Bethesda, Maryland: "The role of the endocannabinoid system in inflammation, oxidative stress, and cell death: implications for tissue protection/injury."
- 2010, October, Joint Research Conference of the Institute for Advanced Studies the Hebrew University and the Israel Science Foundation on: CANNABINOIDS IN BIOLOGY AND MEDICINE, Jerusalem, Israel: "Role of the CB2 receptors in inflammation and tissue injury: interplay of activated endothelium and inflammatory cells"
- 2010, October, Redox Biology course, National Cancer Institute, Bethesda, Maryland: "Endocannabinoids and plant-derived cannabinoids in inflammation, redox regulation and cell death: implications for tissue protection or injury".
- 2010, September, The 2010 ISBRA World Congress, Paris, France: Symposium Organizer on the Role of ROS/RNS in liver injury; Session Chair: Molecular mechanisms of alcoholic liver disease: Roles of endocytosis, PARP, TGF- $\beta$
- 2010, August, Federation of the Societies of Biochemistry and Molecular Biology course on Free Radicals, invited speaker: "Methods for the detection of ROS by flow cytometry and imaging" and "ROS/RNS and diseases: animal models"
- 2010, July, The International Cannabinoid Research Society Annual meeting, Lund, Sweden: Session Chair: Metabolism and feeding behavior "Cannabidiol attenuates cardiac dysfunction, oxidative stress, fibrosis, inflammatory and cell death signaling pathways in diabetic cardiomyopathy" "Cannabinoid-1 receptor activation induces reactive oxygen species-dependent and -independent mitogen-activated protein kinase activation and cell death in human coronary artery endothelial cells and cardiomyocytes"
- 2010 June, University of Bonn, Germany, Workshop for the DFG Research Unit 926: The Endocannabinoid System: "From Physiology to Pathophysiology", Session Chair: Inflammation and Aging  
'Interplay of oxidative/nitrosative stress, inflammation, cell death signaling pathways and the endocannabinoid system: Implications for cardiovascular disease"
- 2010 June, University of Hannover, Germany, "Role of cannabinoid-2 receptors in inflammation and tissue injury"
- 2010 May, Budapest, Hungarian Academy of Sciences
- Department of Pathology and Laboratory Medicine, 2010 Temple University School of Medicine "Anti-inflammatory and anti-oxidant effects of CB<sub>2</sub> activation in endothelial cell biology and end-organ protection"
- LSUHSC, Dept of Pharmacology, 2010 Febr, The interplay of the oxidative/nitrosative stress and the endocannabinoid system in cardiovascular disease and tissue injury
- NIH, Pain Interest Group, 2010 "Interplay of the endocannabinoid system with oxidative-nitrosative stress and inflammation in models of tissue injury"

- American Heart Association, Scientific Sessions, 2009, Nov “Cannabidiol Attenuates Myocardial Dysfunction, Fibrosis, Inflammation, Cell Death and Interrelated Signaling Pathways Associated With Diabetic Cardiomyopathy”
- Experimental Biology Meeting, New Orleans 2009 Apr “Cannabidiol attenuates cisplatin-induced nephrotoxicity by decreasing oxidative/nitrosative stress, inflammation and cell death”
- Dept. of Physiology, Louisiana State University Health Sciences Center 2009 Apr “Role of oxidative/nitrosative stress and poly(ADP)-ribose polymerase in cardiomyopathy and heart failure”
- University of Calgary, Canada 2009 Apr “Role of the endocannabinoid system in cardiovascular disease”
- The Hungarian Scientific Research Fund Meeting 2008, Dec, Executive Grant Committee meeting
- American Heart Association, Scientific Sessions, 2008, Nov, New Orleans “Role of PARP in myocardial hypertrophy”. Also symposium organizer.
- 6th Meeting of the International Chair on Cardiometabolic Risk (ICCR), Canada, 2008 “Cardiovascular effects of cannabinoids”
- Section on Neuroendocrine Immunology & Behavior NIMH/NIH, March 2008 “Interplay of oxidative/nitrosative stress and endocannabinoid system in doxorubicin-induced heart failure”.
- American Society of Addiction Medicine (ASAM) meeting on April 13, 2008, in Toronto, Canada, “Role of Endocannabinoid System in Cardiovascular Diseases”
- Experimental Biology Meeting, San Diego, 2008 “Hemodynamic measurements in mice and rats using pressure-volume system”
- 3<sup>rd</sup> International Mitochondria Minisymposium: mitochondria and their proteomics, Natcher Conference Center (Building 45) ♦ Bethesda, Maryland, January 9–11, 2008 “Oxidative/nitrosative stress in various animal models of heart failure.”
- Cardiovascular Research Group, University of Alberta, Edmonton, Alberta, Canada 2008 “Interplay between NO, superoxide and peroxynitrite in heart failure”
- Boston Medical Center, Dept of Cardiology 2008 “Endocannabinoid inhibition and its relevance for heart disease, atherosclerosis and cirrhosis”
- New York Medical College, Dept of Physiol., 2008 “Peroxynitrite is a major mediator of cell death and dysfunction in doxorubicin-induced heart failure and myocardial infarction”
- GW 3rd Annual Scientific Review, Royal Academy of Science, London, 2008.” Cannabinoids and the cardiovascular system”
- The George Washington University, Dept of Cardiology, 2007 “Peroxynitrite is the major trigger of doxorubicin-induced cell death in myocytes and endothelial cells in vivo and in vitro”
- American Heart Association Meeting 2007, Orlando “Title: Role of superoxide, nitric oxide and peroxynitrite in doxorubicin-induced cell death in vitro and in vivo”
- 10<sup>th</sup> International Conference on Bioactive Lipids in Cancer, Inflammation and Related Diseases 2007 “*Role of CB2 cannabinoid receptors in endothelial inflammatory response: implications for ischemia-reperfusion injury, atherosclerosis and cardiovascular aging.*”
- University Tromso, Faculty of Medicine, Norway 2007; first opponent on PhD defense of Elena Egorina
- CB2 cannabinoid receptors: new vistas, Banff, Canada, 2007 “Role of endocannabinoids and cannabinoid 2 receptor in hepatic ischemia/reperfusion injury”
- International Cannabinoid Research Society Meeting, Saint-Sauveur, Canada, 2007 “Cannabinoid receptor 2 mediates protection against hepatic ischemia/reperfusion injury” “Pharmacological inhibition of cannabinoid-1 receptor protects against doxorubicin-induced cardiotoxicity”
- East Coast PARP 2007 Meeting, Quebec, Canada “Role of PARP in heart failure and angiogenesis”
- NIH Research Festival, 2006; Session Chair “Neural and Neuroendocrine Factors in Shock and Inflammatory Tissue Damage” “Endocannabinoid System: Emerging Target against Ischemic-reperfusion Injury”
- 15<sup>th</sup> World Congress of Pharmacology, Beijing, China, July, 2006 “Pharmacological modulation of oxidative-nitrosative stress and downstream effectors in heart failure.”
- International Semmelweis Symposium “Nitric oxide and nitrosative stress in the cardiovascular system”, Budapest, Hungary, October, 2006; Session Chair; “Nitrosative stress, PARP and chronic heart failure”
- HHS Office of Public Health Emergency Preparedness, August, 2006 “PARP inhibition against toxin-induced cardiovascular collapse”

- Pennington Biomedical Research Center, Louisiana State University System, 2006 “Diabetic cardiovascular dysfunction: role of PARP”
- Hungarian Academy of Sciences, August, 2005 “Role of peroxynitrite in the contractile dysfunction in doxorubicin-induced heart failure”
- Departments of Human Physiology and Clinical Experimental Research and Pharmacology and Pharmacotherapy, Medical Faculty, Semmelweis University Medical School, Budapest, Hungary, 2005. “New pharmacological strategies against doxorubicin-induced cardiotoxicity”
- 1st Annual INIP Biodefense Workshop, NIH, 2004
- Department of Life Sciences, University of Hertfordshire, UK, October 2004 “Mechanisms of heart failure, role of oxidative stress”
- Centre for Cardiovascular Biology & Medicine, GKT School of Biomedical Sciences, King's College London, Guy's Campus, London SE1 1UL, UK, October 2004 “Role of peroxynitrite and PARP in heart failure”
- Department of Physiology, Ludwig Maximilians University, Munich, Germany, October 2004 “PARP in cardiovascular diseases”
- Department of Pharmacology and Pharmacotherapy, Semmelweis University, Budapest, Hungary, 2004 “Diabetic cardiomyopathy: role of PARP”
- XVIII World Congress International Society for Heart Research, Brisbane, Australia, August, 2004 “Role of oxidative and nitrosative stress in various forms of heart failure”
- 9th World Congress on Advances in Oncology and 7th International Symposium on Molecular Medicine Crete, (Greece), October 14-16, 2004; Session Chair; “Mechanisms of Doxorubicin-induced cardiotoxicity”
- 3rd International conference on the Biology, Chemistry and Therapeutic Applications of Nitric Oxide, (Japan) May, 2004 “Peroxynitrite neutralization protects against doxorubicin-induced heart failure”
- 5<sup>th</sup> International Congress on Coronary Artery Disease, Florence (Italy), October, 2003 “Pharmacological inhibition of PARP as new therapy for chronic heart failure”
- Procter & Gamble, Cincinnati, (USA), 2003 “Application of pressure-volume system in rodents”
- Experimental Biology Meeting (FASEB), New Orleans, (USA), 2002 “Role of PARP in ARDS”
- Semmelweis University, Budapest, Hungary, 2001
- International Society for the Study of Hypertension in Pregnancy (ISSHP) meeting, Kobe, Japan, 1998 “Prolongation of repolarization in postpartum animals: clinical relevance.”
- WPA Thematic Conference "Synthesis Between Psychopharmacology and Psychotherapy", Jerusalem, Israel, November 16-21, 1997 “Cardiovascular effects of fluoxetine”

### **Collaborators (past/present):**

#### **NIH:**

**George Kunos** M.D., Ph.D.; Scientific Director, NIAAA/NIH;

**Byoung Song** PhD; Unit of Molecular Biology, NIAAA/NIH;

**Bin Gao** M.D., Ph.D; Section Chief, Liver Biology, NIAAA/NIH;

**Ted Usdin** Ph.D.; Laboratory of Genetics, National Institute of Mental Health;

**Esther M. Sternberg** M.D., Director Integrative Neural Immune Program Section on Neuroendocrine Immunology & Behavior, National Institute of Mental Health;

**Michael J. Iadarola Ph.D.**, chief of the Neuronal Gene Expression Unit, National Institute of Dental and Craniofacial Research;

**David Wink** and **Murali Krishna Cherukuri** Ph.D.; National Cancer Institute, Radiology Branch

**Wen Jin Wu** Ph.D.: FDA/CDER

#### **Extramural:**

**United States:**

Prof. **Benjamin F. Cravatt**, Ph.D., Departments of Cell Biology and Chemistry, The Scripps Research Institute, La Jolla, CA;

**Daniel Nomura**, Ph.D., University of California at Berkeley;

Prof. **Gabor Kalley** M.D., Ph.D., Dept. of Physiology, New York Medical College, Valhalla, New York 10595,

Prof **Csaba Szabo** M.D., Ph.D.; The University of Texas Medical Branch, Galveston;

Prof. **Irina Obrosova** Ph.D.; Division of Nutrition and Chronic Disease; Pennington Biomedical Research Center;

Louisiana State University, Baton Rouge, LA 70808;

Associate Prof. **Zoltan Ungvari** M.D., Ph.D., University of Oklahoma Health Sciences Center;

Dr. **Gyorgy Hasko** M.D., Ph.D; Department of Surgery, UMD NJ-New Jersey Medical School, Newark, New Jersey;

**Oleg V. Evgenov** M.D., Ph.D.; Department of Anesthesia & Critical Care Massachusetts General Hospital, Harvard Medical School, Boston, MA 02114;

Prof. **Aron Lichtman** Ph.D., VCU;

Prof **Ken Mackie** M.D., Department of Psychological and Brain Sciences and Program in Neuroscience;

Professor **David Kass**; Johns Hopkins Medical Institutions, Baltimore;

Drs. **Lois E. Smith** and **Zsuzsanna Zsengeller**; Children's Hospital Boston, Harvard Medical School

Prof. **Aristidis Veves** M.D., Ph.D, Beth Israel Deaconess Medical Center, Boston, MA

Dr. **Isaac E. Stillman**, Department of Pathology, Beth Israel Deaconess Medical Center

**Europe:**

Prof. **Lucas Liaudet** M.D., Critical Care Division, Department of Internal Medicine, University Hospital, Lausanne, Switzerland;

**Jon Mabley** Ph.D., School of Pharmacy and Biomolecular Sciences, University of Brighton, Brighton UK.

Drs. **Rohini Kuner**; University of Heidelberg, Germany

Drs. **Stefan Engeli** and **Jens Jordan**; Franz Volhard Clinical Research Center, Charité Campus Buch, and HELIOS Klinikum Berlin, Berlin, Germany;

Prof. **Roger Pertwee** Ph.D., University of Aberdeen, UK

Prof. **Mauro Maccarrone**, Ph.D., University of Teramo, Italy.

**Jürg Gertsch**, Ph.D., University of Bern, Institute of Biochemistry and Molecular Medicine

Prof. **Raphael Mechoulam** Ph.D.; Department of Medicinal Chemistry and Natural Products, Hebrew University Medical Faculty

**PAPERS:**

**PEER-REVIEWED ORIGINAL RESEARCH PAPERS**

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